CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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1. Special Bureau 1 (SB 1) in Moscow/Morino was subordinate to Department 5 of Scientific Research Institute 885 (NII 885). The bureau, founded on 1 November 1946, was installed in two buildings of a large sanatorium, one for laboratories, the other one for billets. Technical deputies to be in charge of general problems, requisitions, reports, and supervision were assigned to SB 1 by the chief of SB 1 at NII 885. These deputies were but little concerned with the technical problems of SB 1.

2. NII 885 had been set up in December 1945 in a former field telephone factory in Moscow/Novaya. The institute was subordinate to the Ministry of Communication Equipment Industry. It was composed of 16 departments, of which the following were remembered by source:

Department 1 -- Secret Department
Department 3 -- Transmitter and Antennas
Department 5 -- Remote Control Systems
Department 8 -- Integration Devices
Department 9 -- Measuring Instruments
Department 16 - Relays and Computer Equipment

Further information on the organizational setup and the work done at this institute could not be obtained because the members of SB 1 lived separately and only at a later period were they allowed to pay short visits to the institute.

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3. Work at SB 1 included the following projects:

   a. Between 1 November 1946 and about February 1947 one type each of the "Hase" and the "Kehl" transmitter sets with antennas were repaired. These transmitters were part of the radio equipment of the V-2 guided missile.
   b. In about March 1947 an order was given for the development of remote control systems for antiaircraft rockets.
   c. On the basis of the research conducted in this field the Soviets requested, in January 1948, that priority be given to the following systems:
      (1) A rocket with a target-seeking warhead to approach aircraft, automatically guided by an SCR-584 radar set.
      (2) According to the second system, the rocket was to travel on a guide beam. However, the Soviets lost interest in this project and it was dropped after about one year.
   d. In 1949, 60 defective V-2 receivers arrived at the bureau with the order to utilize them for the production of 35 operational sets.

4. Homing devices for target-seeking antiaircraft rockets were also being worked on at SB 1. A method, according to which the rockets were to be launched in a certain direction and then to continue their travel automatically, was repeatedly discussed but never taken into serious consideration. The space left in the missile for the homing mechanism was about 600 mm long and had a diameter of 460 mm to 520 mm. The diameter of the antenna was not to exceed 300 mm. The tip of the rocket was to be made from foam bakelite (Schaumbakelit). The first antenna model of the target-seeking head was designed with a receiver dipole rotating at an inclined angle against an axis of symmetry which was to be adjusted in the direction of the target. On a later model this type of antenna was replaced by an eccentrically rotating dipole which was driven by a motor unit operating at high speed. An original American SCR-584 radar set was available at SB 1 for the locating of the target. Radar sets of the same type were being produced in Moscow. The homing mechanism of the rocket was adjusted in accordance with the data obtained by the SCR-584. A computer designed by Ernst Sattler was to determine and evaluate the difference in position between the rocket and radar set. After the homing mechanism of the rocket had picked up the target it was switched to automatic homing and the rocket could be launched.

5. The radar set operated on a frequency ranging from 2760 to 2950 megacycles. The homing mechanism was to be sensitive enough to spot a four-engine aircraft at a distance of 30 km. By December 1950 three models were completed. In February and March 1951 they were tested against captive balloons and during May and June against aircraft. Approaching aircraft were spotted at a distance of up to 12 km, and departing aircraft could be tracked up to 17 km. During the following months the project had to be pushed and the research records had to be forwarded to the Soviets by October 1951.

6. The Soviets demanded that only Soviet tubes and materials be used. Difficulties in the supply were probably caused by the isolation of SB 1 from NII 885. Serious difficulties were in the procurement of type KD-2 crystal detectors, LD-12 tubes, and trolitul (a synthetic material), which was available only on special request by forwarding the pertaining designs to the chief engineer of the institute. An accurately centered steel shaft, about 27 cm long, to be used as the rotation axle for the receiver dipole, was not available and had finally to be manufactured at SB 1 with improvised tools.

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7. Dr. Johannes Tschauner and Dr. Karl Anton Borkmann did research on the flight stability of the rocket. By late 1951 they had determined that the flying performance of the missile would reach optimum values. The power unit and control system of the rocket were not worked on at SB 1.

8. There were only a few technical records available at SB.1. Research material on hand included the original American description of the SCR-584 radar set and a two-volume Soviet copy of this description. The members of SB 1 had admission to the scientific library in Moscow; however, their visits had to be announced and they were required to present special authorizations. During the last year it was possible to borrow books and technical magazines from the library of NII 885, which contained many German, American, and English books and magazines; but only few of them had been published since January 1951.

9. In 1948 at NII 885 measurements were taken for the antenna of the "Kehl" transmitter and accurate measuring records were kept. Information received at SB 1 indicated that antennas of this type were quantity produced and tested at the Podlipki plant. Improvement work on the Messina method was conducted in order to increase the number of channels.

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11. The Buschbeck Group was transferred to Kuntsevo on 15 November 1950. After May 1951 they lived in Moscow/Tushino. Except for this group, the German scientists were released.

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